

CLAIMS

1. A coated paper comprising:
a paper; and
a coating applied at a coat weight of about 2 pounds per 3,300 square feet to about 8 pounds per 3,300 square feet to at least one side of said paper wherein said coating comprises a stable aqueous cationic slurry of an alumina pigment, a wetting agent or nonionic polymer, and a cationic interfacial modifier dispersant without using any acidic dispersants wherein said alumina pigment is from about 35% by weight to about 45% by weight of the said cationic slurry, and the nonionic wetting agent or nonionic polymer of combination thereof is about 0.5% by weight to about 5% by weight of said cationic slurry, and said cationic interfacial modifier is from about 2% by weight to about 15% by weight of said cationic slurry and wherein the remaining % by weight of said cationic slurry is selected from the group consisting of cationic dispersants, cationic surfactants and combinations thereof, and water; wherein said cationic pigment slurry is mixed with binders, pigments, and other additives to form a coating formulation with a total solids content from about 42% by weight of the coating formulation up to about 72% by weight of the coating formulation.
2. The coating of claim 1 wherein the nonionic wetting agent is selected from the group consisting of monohydric alcohols, polyhydric alcohols, polyalcohols and polyols an facetsylenic alcohol and combinations thereof.
3. The coating of claim 1 wherein the nonionic polymer is a nonionic polyacrylamide or a nonionic polyvinyl alcohol.

4. The coating of claim 1 wherein the cationic interfacial modifier is selected from the group consisting of cationic dispersants, cationic surfactants and combinations thereof.
5. The coating of claim 1 wherein the cationic interfacial modifier comprises aluminum hydroxychloride, quaternary ammonium, inorganic oligomer or combinations thereof.
7. The coating of claim 1 wherein the aqueous cationic slurry has a viscosity of less than about 5000 cPs, Brookfield No. 4 spindle, 20 rpm.
8. The paper of claim 1 wherein a base coating is applied to the paper before the coating formulation is applied.
9. The paper of claim 1 wherein the coating formulation has a mechanically treated surface.
10. A method of making a coated paper comprising:
providing a paper; and
providing a coating wherein said coating comprises a stable aqueous cationic slurry of an alumina pigment, a wetting agent or nonionic polymer, and a cationic interfacial modifier dispersant without using any acidic dispersants wherein said alumina pigment is from about 35% by weight to about 45% by weight of the said cationic slurry, and the nonionic wetting agent or nonionic polymer of combination thereof is about 0.5% by weight to about 5% by weight of said cationic slurry, and said cationic interfacial modifier is from about 2% by weight to about 15% by weight of said cationic slurry and wherein the remaining % by weight of said cationic slurry is selected from the group consisting of cationic dispersants, cationic surfactants and combinations thereof, and water; wherein said cationic pigment slurry is mixed with binders, pigments, and other additives to form a coating formulation with a total solids content from about 42% by weight of the coating formulation up to about 72% by weight of the coating formulation;

applying said coating to said paper at a coat weight of about 2 pounds per 3,300 square feet to about 8 pounds per 3,300 square feet to at least one side of said paper.

11. The method of claim 10 wherein said coating is applied by a method selected from the group consisting of roll, blade, bar, pad coater, or cast coating.
12. The method of claim 10 wherein excess coating is metered off to form a uniform coating thickness.
13. The method of claim 10 wherein said coating is dried by heat treatment.